WHAT IS CLAIMED IS:

1. A method for producing multilayered ceramic substrate having a cavity comprising the steps of:

providing a first ceramic green sheet having an opening for forming a cavity, and a second ceramic green sheet having no opening at a position corresponding to said opening of the first ceramic green sheet;

providing a first shrinkage-reducing material for reducing shrinkage stress produced at a boundary between said first ceramic green sheet and said second ceramic green sheet;

forming a green-sheet stack having a cavity defined by said opening by stacking said first ceramic green sheet, said second ceramic green sheet and said first shrinkage-reducing material so that an aperture of said cavity is disposed on at least one end face of said stacked ceramic green sheets in a sheet-stacking direction and extends through a depth of said stack to an inner peripheral surface while positioning said shrinkage-reducing layer comprising said first shrinkage-reducing material along said boundary between said first ceramic green sheet and said second ceramic green sheet so that said shrinkage-reducing layer is exposed at an end of said inner peripheral surface of said cavity; and

firing said green-sheet stack.

2. The method for producing multilayered ceramic substrate having a cavity according to Claim 1, wherein said shrinkage-reducing layer is exposed on the entire periphery of the inner peripheral surface of said cavity as a shrinkage-reducing pad.

3. The method for producing multilayered ceramic substrate having a cavity according to Claim 2, wherein said shrinkage-reducing pad has a surface substantially parallel to a surface of said first ceramic green sheet defining said one end face and wherein said shrinkage-reducing pad surface has an area which is more than or equal to about 10% of the area of said surface of said first ceramic green sheet to which it is substantially parallel.

4. The method for producing multilayered ceramic substrate having a cavity according to Claim 2, wherein said shrinkage-reducing pad comprises a thick film layer having a planar surface substantially identical to that of said first ceramic green sheet along said boundary between said first ceramic green sheet and said second ceramic green sheet.

5. The method for producing multilayered ceramic substrate having a cavity according to Claim 2, wherein said shrinkage-reducing pad has a thickness which is less than or equal to about 20% of the depth of said cavity.

6. The method for producing multilayered ceramic substrate having a cavity according to Claim 2, wherein said shrinkage-reducing pad comprises a glass component, and the softening temperature of said glass component is less than or equal to the shrinkage starting temperature of said first and second ceramic green sheets.

7. The method for producing multilayered ceramic substrate having a cavity according to Claim 6, wherein said first and second ceramic green sheets comprise a glass component.

8. The method for producing multilayered ceramic substrate having a cavity according to Claim 7, wherein the content of said glass component in said first and second ceramic green sheets is less than the content of said glass component in said shrinkage-reducing pad.

9. The method for producing multilayered ceramic substrate having a cavity according to Claim 8, wherein said glass components contained in said shrinkage-reducing pad and said first and second ceramic green sheets have a common constituent.

10. The method for producing multilayered ceramic substrate having a cavity according to Claim 9, wherein a glass component contained in said shrinkage-reducing pad is the same as a glass component contained in said first and second ceramic green sheets.

11. The method for producing multilayered ceramic substrate having a cavity according to Claim 1, further comprising:

providing a second shrinkage-inhibiting material comprising an inorganic material having a firing temperature higher than that of a ceramic material contained in said first and second ceramic green sheet,

during said forming said green-sheet stack, forming a two additional shrinkage-inhibiting layers each of which comprise said second shrinkage-inhibiting material so as to cover both end faces of said green-sheet stack in the sheet-stacking direction while said opening is formed so as to expose said aperture of said cavity therefrom, and

firing said green-sheet stack under conditions that said inorganic material contained in said additional shrinkage-inhibiting layers is not fired.

12. The method for producing multilayered ceramic substrate having a cavity according to Claim 11, further comprising removing said additional shrinkage-inhibiting layers after said firing.

13. A multilayered ceramic substrate having a stack adapted to be fired, wherein said stack comprises:

a first ceramic layer having an opening defining a cavity;

a second ceramic layer having no opening at a position corresponding to said opening,

said first ceramic layer and said second ceramic layer being stacked, and the cavity defined by said opening having an aperture on at least one end face of the stacked layers in a sheet-stacking direction and extending to an inner peripheral surface defined by said second ceramic layer, and

a shrinkage-reducing layer disposed at all or a part of a boundary between said first ceramic layer and a second ceramic layer so as to be exposed at an end of the inner peripheral surface of said cavity,

wherein said shrinkage-reducing layer comprises a shrinkage-reducing material for reducing shrinkage stress produced at said interface between said first ceramic layer and said second ceramic layer during said firing process.

14. A multilayered ceramic substrate according to Claim 13, wherein said shrinkage-reducing layer is exposed on the entire periphery of the inner peripheral surface of said cavity as a shrinkage-reducing pad.

15. A multilayered ceramic substrate according to Claim 14, wherein said shrinkage-reducing pad has a surface substantially parallel to a surface of said first ceramic green sheet defining said one end face and wherein said shrinkage-reducing

pad surface has an area which is more than or equal to about 10% of the area of the surface of said first ceramic green sheet to which it is parallel and a thickness which is less than or equal to about 20% of the depth of said cavity.

16. A multilayered ceramic substrate according to Claim 15, wherein said shrinkage-reducing pad comprises a glass component having a softening temperature which is less than or equal to the shrinkage starting temperature of said first and second ceramic green sheets.

17. A multilayered ceramic substrate according to Claim 16, wherein said stack further comprises a shrinkage-inhibiting layer comprising a shrinkage-inhibiting inorganic material disposed at both end faces of said green-sheet stack in the sheet-stacking direction while said opening is formed so as to expose said aperture of said cavity therefrom.

18. A multilayered ceramic substrate according to Claim 13, wherein said first ceramic layer and said second ceramic layer are green ceramic layers.

19. A multilayered ceramic substrate according to Claim 13, wherein said first ceramic layer and said second ceramic layer are fired ceramic layers.

20. A multilayered ceramic substrate produced by a method for producing multilayered ceramic substrate according to Claim 1.